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FOREST STATISTICS FOR JEFFERSON COUNTY, OREGON

U. S. Forest Service. Pacific Northwest Forest Experiment Station

CALIFORNIA FOREST & RANGE EXPERIMENT STATION
330 GIANNINI HALL, UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC NORTHWEST FOREST EXPERIMENT STATION



ADDRESS REPLY TO
DIRECTOR
AND REFER TO

R-NW
Forest Survey

424 U. S. COURT HOUSE
MAIN AND SIXTH STREETS
PORTLAND, OREGON



April 24, 1936.

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California Forest & Range Experiment Sta.,
332 Giannini Hall,
Berkeley, California.

Dear Sir:

Enclosed is a copy of the report for Jefferson County, Oregon.

This is the fourth of the Forest Survey reports for counties in eastern Oregon and eastern Washington. Similar reports for Klamath and Wasco Counties, Oregon, and Yakima County, Washington, have already been published and sent you. You have also been sent the explanatory text which should be read in connection with the reports for all counties in eastern Oregon and eastern Washington.

Very truly yours,

Thornton T. Munger

THORNTON T. MUNGER, Director

Enclosure

CALIFORNIA FOREST & RANGE EXPERIMENT STATION
330 GIANNINI HALL, UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

APR 29 1936

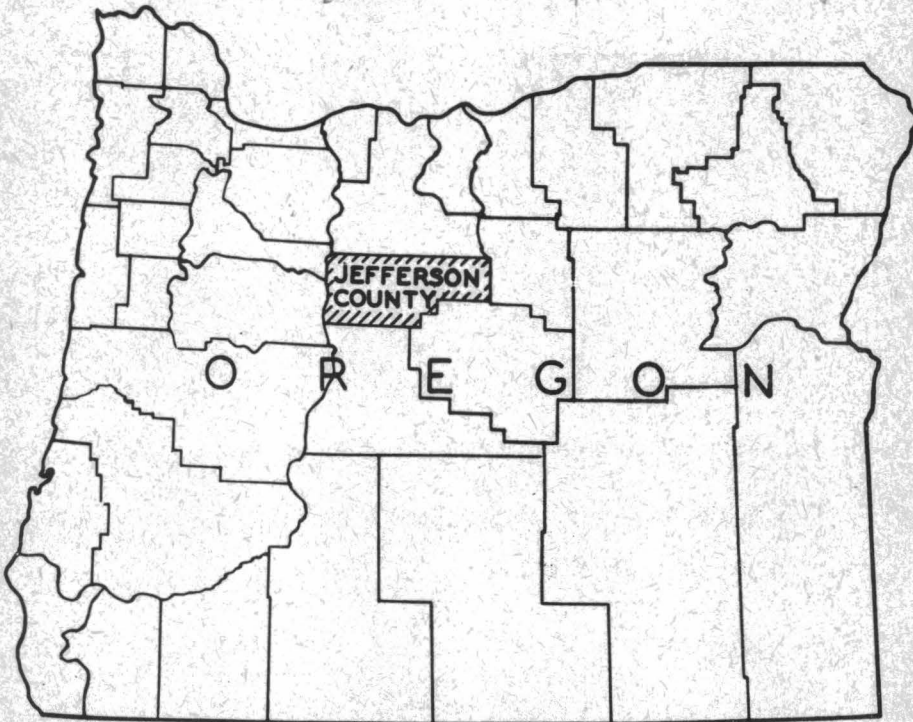
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FOREST STATISTICS FOR JEFFERSON COUNTY, OREGON

99.57
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no. 49

FROM THE INVENTORY PHASE OF THE FOREST SURVEY

Forest Survey report no. 49



U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE
PACIFIC NORTHWEST FOREST EXPERIMENT STATION
THORNTON T. MUNGER, DIRECTOR

J. ANDREWS, IN CHARGE OF FOREST SURVEY R. W. COWLIN, ASSISTANT
PAUL D. KEMP, IN CHARGE OF FIELD AND OFFICE WORK
IN JEFFERSON COUNTY

PORTLAND, OREGON

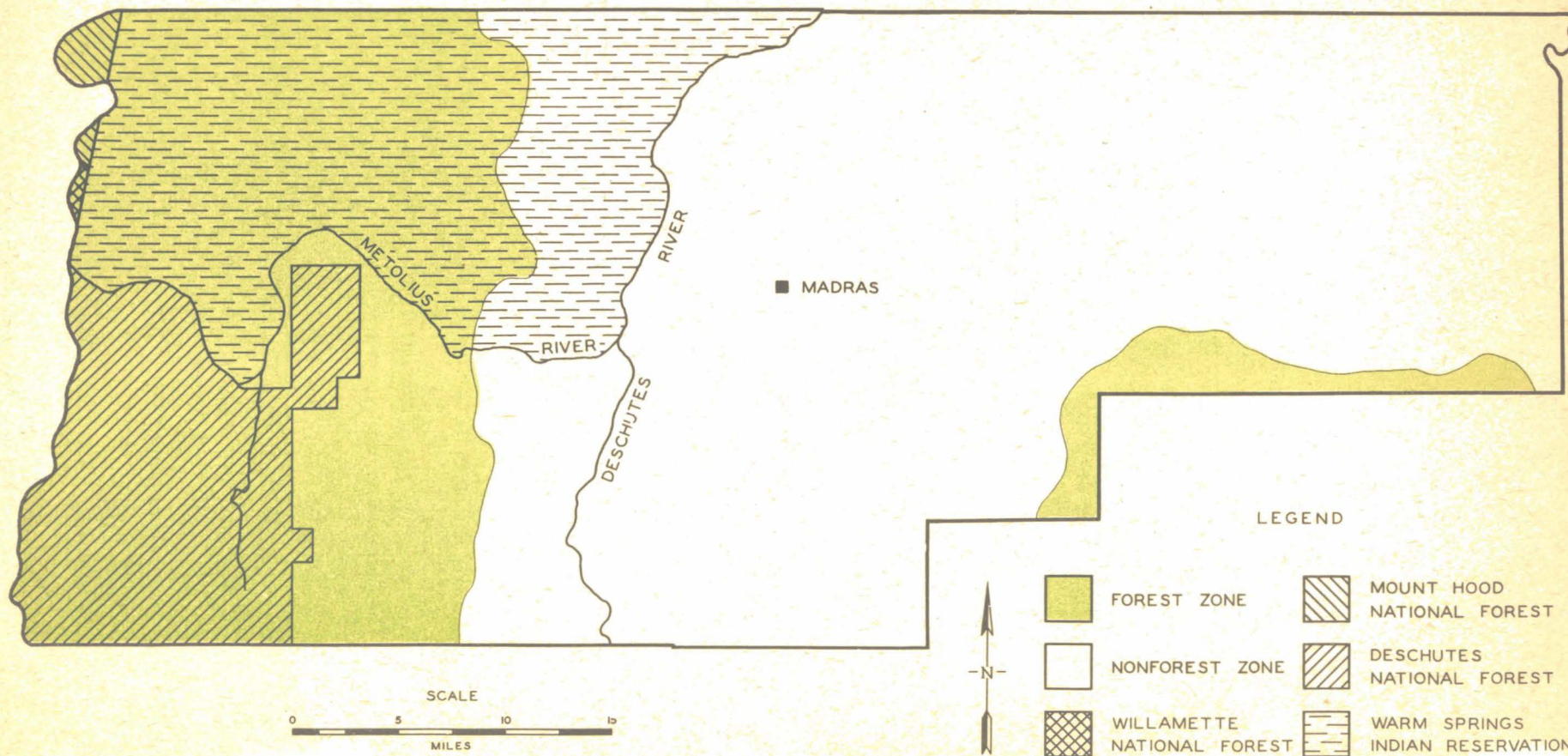
APRIL 15, 1936

CALIFORNIA FOREST & RANGE EXPERIMENT STATION
330 GIANNINI HALL, UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

FIGURE 1

OUTLINE MAP
OF
JEFFERSON COUNTY, OREGON

1936



FOREST STATISTICS FOR JEFFERSON COUNTY, OREGON

By Paul D. Kemp^{1/}

This initial report presents some of the results of a forest survey of Jefferson County, Oregon, made during 1933 and 1934 by the Forest Service as a part of a national survey of forest resources. It embodies statistics of the forest inventory of this county in four tables and four figures. A description of the procedure used in the survey and the detailed definitions of types are contained in "The Forest Survey of Eastern Oregon and Eastern Washington"; an explanatory text which should be read in connection with this report.

Location and Description of County

Jefferson County in north-central Oregon extends from the Cascade Divide across the basin of the Deschutes River to the John Day River. Except for a 12 mile offset to the north in the extreme south-east portion, the boundary forms a rectangle 70 miles long and 30 miles wide. The county was established in 1914 and has an area of approximately 1,138,560 acres.

The topography in the western part of the county grades from plains and moderate slopes to deep narrow valleys and rugged alpine peaks, the most notable of which are Mount Jefferson, Three-fingered Jack, Black Butte, and Bald Peter. The eastern part, although less rugged is likewise

^{1/} THE FIELD WORK OF THE FOREST SURVEY OF JEFFERSON COUNTY WAS DONE BY PAUL D. KEMP, P. N. PRATT, V. H. HARLESS, AND A. D. THRANE. THE DATA WERE COMPILED BY A. W. HODGMAN, F. H. VOGEL, AND R. W. TAYLOR.

^{2/} OREGON AND WASHINGTON WERE DIVIDED FOR PURPOSES OF THE SURVEY INTO TWO REGIONS, (1) THE DOUGLAS FIR REGION, CONSISTING OF THAT PART OF BOTH STATES WEST OF THE SUMMIT OF THE CASCADE RANGE, AND (2) EASTERN OREGON AND EASTERN WASHINGTON, THAT PART OF BOTH STATES EAST OF THE SUMMIT OF THE CASCADE RANGE. EACH REGION WAS DIVIDED INTO FOREST-SURVEY UNITS COMPOSED OF ONE OR MORE COUNTIES. AT A LATER DATE A REPORT WILL BE ISSUED FOR EACH SURVEY UNIT PRESENTING A TEXTUAL DESCRIPTION OF THE UNIT, DETAILED INVENTORY SUMMARIES, AND STATISTICS OF GROWTH AND DEPLETION ANALYZED IN THE LIGHT OF THE INVENTORY. FINALLY, A REGIONAL REPORT WILL BE ISSUED WHICH WILL SUMMARIZE THE UNIT REPORTS, PRESENTING AND DISCUSSING FINDINGS FOR THE REGION AS A WHOLE. THE REGIONAL REPORT WILL INCLUDE AN INTERPRETATION OF THE FOREST-SURVEY DATA AS RELATED TO OTHER ECONOMIC DATA AND A COMPREHENSIVE ANALYSIS OF THE REGIONAL FOREST SITUATION FROM BOTH A PHYSICAL AND AN ECONOMIC STANDPOINT.

mountainous. The central two-thirds of the county, which forms part of the upper basin of the Deschutes River, is a plateau dissected by numerous deep canyons and interrupted by occasional volcanic rims and peaks. Elevations within the county range from 1,250 feet on Deschutes River to 10,495 feet, the summit of Mount Jefferson.

Marked differences in climatic conditions occur within the county. The low central part is arid; annual precipitation at Warm Springs from 1902 to 1926 and at Madras from 1920 to 1934 averaged 10.24 inches and 8.53 inches respectively. No records are available for the higher portions of the county, but for the timbered area in the southeastern part the average precipitation is probably about 25 inches. The heaviest precipitation, averaging more than 40 inches, occurs in the mountainous western portion. The arid portions of the county particularly are subject to a wide range in temperature, the highest and lowest recordings at Madras since 1920 being 112° F. and -40° F., respectively. Low winter temperatures prevail in the timbered areas but the summer temperatures are more moderate.

The prevailing direction of drainage is toward the center of the county and thence northward into the Columbia River by way of the Deschutes River. The Metolius River, the principal tributary of the Deschutes, rises in the western part of the county from a number of exceptionally large springs and has a remarkably uniform and copious flow considering its shortness. Crooked River, the main tributary in the eastern part of the county is subject to wide fluctuations in flow due partly to diversion for irrigation purposes. All the larger streams in the lower part of their courses flow through deep canyons.

Transportational facilities in the county consist of railroad and highway. The Oregon Trunk Railway, used jointly by the Union Pacific and Great Northern Railroads, crosses the west-central portion of the county. Besides numerous dirt roads, the county has about 2,000 miles of improved roads, including links of The Dalles-California Highway and the Santiam Highway.

According to the Bureau of the Census, the population of Jefferson County declined from 3,211 in 1920 to 2,291 in 1930. This retrogression was chiefly due to forced abandonment of farms and rural communities because of drought conditions and unfavorable wheat markets. Madras, the county seat and only incorporated town, had a population of 291 in 1930 as compared with 337 in 1920. The most important rural communities are: Warm Springs, Paxton, Metolius, and Culver.

Nonforest Land and Agricultural Development

Precipitation is the limiting factor in the distribution and character of vegetation thruout the greater part of the county. The forest survey (table 4) classified 665,780 acres, approximately 59 percent of the county, as nonforest land. A small acreage formerly forested has been cleared for agriculture but about 57 percent of the county shows

no evidence of ever having been forested. The nonforest land includes, according to the 1934 county assessment rolls, 140,863 acres of tillable land; the remaining 528,400 acres are largely grass or sagebrush lands, suitable chiefly for grazing.

The Bureau of the Census reports for 1929 showed a total farm area of 620,567 acres, of which 123,246 acres were available for crops. Practically all of the cultivable area was dry farmed; only 5,207 acres were irrigated. About half the available acreage was cropped in 1929; the remainder was chiefly in cultivated summer fallow.

The value of farm products sold, traded, or used by operators in 1929, as reported from 318 farms, was \$1,168,086. Ranked in order of value the principal products were cereals (chiefly wheat), live stock (cattle and sheep), hay, and wool. Forest products cut on farms were valued at \$8,717.

Forest-Land Area and Forest Types

The forest land of Jefferson County totals 472,780 acres, or 41.5 percent of the total area (table 4). It occurs chiefly in a zone approximately 20 miles wide, extending across the western portion of the county as indicated in figure 1.^{3/} The east two-thirds of this zone is largely occupied by pure stands of ponderosa pine of saw-timber size; the western one-third, embracing the upper slopes of the Cascade Range, is composed of barrens and forests of subalpine character, lodgepole pine, fir-mountain hemlock, and Douglas fir. The fringe of forest land along the southeast boundary of the county is also composed of practically pure ponderosa pine of saw-timber size. Scattered areas of western juniper varying from several acres to 12,000 acres in extent occur thruout the nonforest zone in the central and eastern parts of the county. It is unlikely that the present forest area will be materially changed by agricultural development.

Figure 3 is a diagrammatic presentation of the forest-land distribution among the six recognized ownership classes. Of the total forest area in the county, Indian lands constitute 38 percent, private lands 35 percent, and national forest lands 23 percent; the remaining 4 percent consists of public domain, State, and county lands.

Private lands rank first in area of ponderosa pine forests and accessibility. They occur chiefly outside the national forest in the southern part of the county; about 12 percent of the area consists of

^{3/} MAPS ON INCH-TO-THE-MILE SCALE SHOWING THE LOCATION OF THE INTEGRAL AREAS COMPOSING THE 24 TYPES RECOGNIZED IN JEFFERSON COUNTY WERE PREPARED IN CONNECTION WITH THE FOREST INVENTORY. THIS INFORMATION HAS ALSO BEEN INCORPORATED IN A LITHOGRAPHED MAP OF THE NORTHWEST QUARTER OF OREGON. COPIES OF THESE MAPS MAY BE PROCURED FROM THE PACIFIC NORTHWEST FOREST EXPERIMENT STATION.

scattered grants and homesteads within the national forest boundary. The Indian forest land occurs within the Warm Springs Indian Reservation in the northwestern portion of the county. Except for a small acreage of private land it forms a solid area contiguous with extensive Indian timberland in Wasco County to the north. Almost one-third of the national-forest land is reserved for recreation or scientific purposes. The reservation consists of several recreational areas and one natural area, located on the headwaters of the Metolius River and occupied by good stands of ponderosa pine, and a primitive area, chiefly subalpine or noncommercial in character, bordering Mount Jefferson.

The 472,780 acres of forest land (tables 2 and 4) consist of 376,440 acres of commercial forests and 96,340 acres that are chiefly valuable for protection or scenic purposes. The diagrammatic division of the forest area into major cover-type groups appears as figure 4.

Commercial Saw-Timber Types

The saw-timber types have been grouped in table 3 into ponderosa pine (types 20.5 and 20), sugar pine (type 20A), and ponderosa pine mixture (type 27) which represent the most valuable forests of the county and occupy 320,620 acres; and the less valuable Douglas fir (type 7), upper-slope (type 27 $\frac{1}{2}$), and fir-mountain hemlock forests (type 23) which occupy 24,280 acres.

Exclusive of pine woodland (type 5 $\frac{1}{2}$) there are 292,585 acres of forests in which ponderosa pine is the key species, 18,010 acres (type 27) on which this species constitutes from 20 to 50 percent of the volume of the stand, 50,555 acres (type 20) on which it composes from 50 to 80 percent of the stand volume, and 224,010 acres (type 20.5) on which it exceeds 80 percent of the stand volume. 7,850 acres of these ponderosa pine types is reserved for recreation and scientific purposes. Of the area, available for cutting, 122,775 acres is private land, 101,705 acres is Indian land (a form of private-group ownership under governmental control), 54,060 acres is a part of the Deschutes National Forest and 6,185 acres is public domain, State, and county land.

The forests averaging 50 percent or more of ponderosa pine (types 20, 20.5, and 20A) range in volume from 3 M to 40 M board feet per acre. The average volume is about 15 M board feet per acre. Douglas fir, lowland white fir, western larch, and incense cedar are the principal associate species; sugar pine occurs sporadically in these types and on 215 acres forms about 30 percent of the stand.

The pine woodlands (type 5 $\frac{1}{2}$) of which there are 25,175 acres, in general occur between the open arid lands and the dense forests. Ponderosa pine and western juniper compose the forest cover, the former alone having saw-timber volume. Although there has been some sawlog production in this type, the quality of the timber is generally poor.

The remaining ponderosa pine saw-timber area consists of 18,010 acres of ponderosa pine mixture (type 27) and 2,870 acres of small ponderosa pine (type 21). Type 27 occurs along the upper altitudinal limits of ponderosa pine. Approximately 85 percent of the volume, which averages about 20 M board feet per acre, consists of Douglas fir, western larch, lowland white fir, western white pine, silver fir, and Engelmann spruce. Type 21 is all young growth and almost pure ponderosa pine. 2,070 acres, or approximately 70 percent of this type area, has resulted from logging operations; the remainder consists of restocked burns.

Douglas fir forests (type 7), upper-slope forests (type 27 $\frac{1}{2}$), and fir-mountain hemlock forests (type 23), are unimportant commercially because of the limited area involved, their inaccessibility, and the low saw-timber value of the species. Type 7 and type 27 $\frac{1}{2}$ both occur near the upper altitudinal limits of ponderosa pine and differ in composition only in the percentage of Douglas fir which is the major species. The minor species named in order of occurrence are silver fir, lowland white fir, western larch, western white pine, Engelmann spruce, lodgepole pine, and mountain hemlock.

The fir-mountain hemlock forests (type 23) occur along the upper limits of the commercial timber zone and consist principally of pure stands of either mountain hemlock or silver fir; a small proportion of the area is composed of a mixture of alpine fir, Engelmann spruce, and lodgepole pine. Western white pine occurs sporadically thruout the type. Although volumes of 35 M board feet per acre in this type are not uncommon, its present value is limited chiefly to watershed protection.

Commercial Types Less Than 12 Inches D.B.H.

The area of types less than 12 inches d.b.h. totals only 18,380 acres of which 1,915 acres are reserved from cutting. The area available for cutting consists of 8,500 acres of ponderosa pine (types 22 and 28) and 7,965 acres of fir-mountain hemlock (type 24). Type 22 includes 550 acres on which the overstory was blown down by a storm occurring in 1931. On 87 percent of the area, the establishment of the second-growth stands has followed devastating fires; on the remaining 13 percent the stands, consisting entirely of pine types, are the result of logging. These stands vary in age from 10 to 60 years and average about 60 percent of full stocking.

Nonrestocked Cut-Over Areas and Deforested Burns

The nonstocked cutover area totals 1,525 acres and consists entirely of private lands devastated by fire after most of the forest cover had been logged.

The areas deforested by fires alone total 11,635 acres, of which 10,770 acres occur on areas available for cutting. Prior to devastation by fire approximately half of this area supported stands of ponderosa pine; the remainder was formerly occupied by high-altitude species.

Other Forest Types

The remaining 96,340 acres of forest land consists of 57,505 acres of western juniper (types 5A and 5B), 15,460 acres of subalpine and noncommercial forests (types 33 and 38), 23,170 acres of lodgepole pine (types 25, 26, and 26A), and 205 acres of northern black cottonwood (type 31.5).

The juniper types occur chiefly as a fringe bordering the main forest zone or as islands within the nonforest area. The subalpine and noncommercial forests lie above the altitudinal limits of the commercial timber zone. The lodgepole pine forests in this county are likewise concentrated at the higher altitudes where on soils of volcanic ash and on areas devastated by fire the species commonly constitutes the initial tree type. Largely because of the susceptibility of the species to attack by the mountain pine beetle, only 610 acres support stands of sawlog size. The stands, ranging from 50 percent to 100 percent lodgepole pine, average about 60 percent of this species; the associate species are chiefly alpine fir, western white pine, Douglas fir, mountain hemlock, and Engelmann spruce.

Productive Capacity of Forest Land

Table 4 classifies the forest land on the basis of its capacity to produce timber. The area classified on the basis of ponderosa pine which constitutes approximately 90 percent of the commercial-forest land, on an average grades as a medium site quality IV. The site index (average height, in feet, of dominant and co-dominant trees at 100 years of age) for these lands averages 76 feet, ranging from 51 to 112.

The fir lands, using Douglas fir as a basis for classification, average a good site quality V and have an average site index of 90.

Volume of Merchantable Timber

The volume of merchantable timber in the county totals 4,106,618 M board feet, log scale (table 1), of which 171,378 M board feet is reserved for recreational and scientific purposes. The volume is composed of 15 coniferous species and 1 broad-leaved species. Figure 2 graphically presents the volume of the 8 principal species; ponderosa pine constitutes 79 percent of the total merchantable volume in the county. In addition to the species listed in table 1 for which board foot volume only was determined, there are 32,054 cords of western juniper.

Approximately 40 percent of the total volume and 45 percent of the ponderosa pine volume is privately owned. About 33 percent of the volume occurs on Indian land and 26 percent on national-forest land. Slightly more than 16 percent of the national-forest volume is reserved for recreation and scientific purposes.

Depletion from Cutting and Logging Conditions

The cut-over areas aggregate 5,685 acres and this, together with a small acreage cleared for farms, is the extent that the forest cover of Jefferson County has been altered by logging. Annual lumber production from 1925 to 1934, consisting entirely of ponderosa pine, averaged 1,366 M board feet, ranging from 45 M board feet in 1925 to 9,686 M board feet in 1933. The cut in 1933 was produced by three saw-mills, the largest having a daily capacity of about 30 M board feet; during seven years of the past decade one mill only was in operation. Of the three mills active in 1933 one was located in the Warm Springs Indian Reservation; two operated in private timber in the southwestern part of the county. All of the mills were located in the vicinity of the logging operations. The output of the Indian mill was used principally in the reservation, that of the private mills was transported by truck to Redmond, Deschutes County, for remanufacture. With the exception of a salvage operation in 1931-blowdown area, that was short lived because of the destruction of the mill by fire, there has been practically no cutting in national-forest timber.

The present rate of cutting is only a fraction of the mortality resulting from drought and bark beetle attack. This loss has been particularly severe in the southeastern part of the county, the Indian reservation, and thruout the pine-woodland type.

The majority of the ponderosa pine occurs on extensive benches presenting favorable logging conditions. Secondary road developments within the past few years; particularly on the national forest and Indian reservation, have been extended into all the major bodies of this species.

Social Aspects and Forest Influences

The forests of Jefferson County, constituting one of its most valuable resources, are virtually untapped. Private timber, although but 40 percent of the total volume in the county, in 1933 composed 28 percent of the tax base. Products from the forest for fuel and construction are important factors in farm development. Up to the present time, because of limited forest exploitation, the resource has been a minor employment factor. According to the Fifteenth Census Report, only 12 (1.21 percent) of the 994 persons gainfully employed in 1929 were engaged in forest or allied pursuits, and only 28 (1.22 percent) of the 2,291 inhabitants were dependent upon forest industries. These low employment and dependency ratios are due partly to the fact that most of the lumber production is remanufactured in Deschutes County.

Numerous lakes and rugged mountains, all accessible by a well-maintained road and trail system, constitute important scenic and recreational attractions. Patrons of summer resort colonies located in the vicinity of Suttle Lake and along the Metolius River, and fishermen and hunters materially increase the population and stimulate trade during the summer and fall seasons.

FOREST STATISTICS FOR JEFFERSON COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 1. VOLUME OF TIMBER BY SPECIES AND BY OWNERSHIP CLASS
DATA CORRECTED TO JANUARY 1, 1935

TREES 12" AND MORE IN D.B.H.
THOUSANDS OF BOARD FEET, LOG SCALE, SCRIBNER RULE

SUR- VEY SYM- BOL	SPECIES ^{1/}	STATE			COUNTY	INDIAN,	FEDERAL			TOTAL
		PRIVATE	AVAILABLE FOR	RESERVED FROM		TRIBAL	PUBLIC DO- MAIN, AVAIL- ABLE FOR	NATIONAL FOREST AVAILABLE FOR	RESERVED FROM	
						AND				
						TRUST				
			CUTTING	CUTTING		ALLOTMENT	CUTTING	CUTTING	CUTTING	
Y	PONDEROSA PINE	1,469,874	1,420		14,851	1,020,916	37,335	622,968	73,668	3,241,032
SP	SUGAR PINE	2,112				2,074	35			4,221
W	WESTERN WHITE PINE	2,842				3,724		5,842	5,844	18,252
LP	LOGSPOLE PINE	1,484				1,002		2,697	994	6,177
DF	DOUGLAS FIR	114,795			531	159,317	1,127	169,111	13,672	458,553
C	WESTERN RED CEDAR	124						39	3	166
IC	INCENSE CEDAR	1,936			92	23,882		11,032	614	37,556
H	WESTERN HEMLOCK	21				491		1,177	530	2,219
NH	MOUNTAIN HEMLOCK	1,597				60,311		8,772	41,474	112,154
WF	LOWLAND WHITE FIR	29,893			235	54,894	510	26,581	6,089	118,202
NF	NOBLE FIR					3,483		487	6,794	10,764
A	SILVER FIR					323			16,750	17,073
AF	ALPINE FIR	1,165				947		842	1,127	4,081
WL	WESTERN LARCH	11,477			235	9,059	552	32,167	3,068	56,558
ES	ENGELMANN SPRUCE	1,957				10,655		5,000	751	18,363
BC	NORTHERN BLACK COTTONWOOD	250				917		80		1,247
TOTAL SAW TIMBER		1,639,527	1,420		15,944	1,351,995	39,559	886,795	171,378	4,106,618

^{1/} SPECIES NOT LISTED HERE THAT OCCUR IN THE COUNTY ARE (1) WESTERN JUNIPER, VOLUME OF WHICH WAS DETERMINED IN CORDS ONLY, AND (2) WHITEBARK PINE, ALDER, BIGLEAF MAPLE, ASPEN, AND OREGON WHITE OAK, WHICH OCCUR IN NEGLIGIBLE QUANTITIES ONLY.

FOREST STATISTICS FOR JEFFERSON COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 2. AREA, IN ACRES, OF ALL FOREST COVER TYPES, BY OWNERSHIP CLASS
DATA CORRECTED TO JANUARY 1, 1935

SUR- VEY TYPE NO.	TYPE DEFINITION	STATE			COUNTY	FEDERAL				TOTAL	
		PRIVATE	AVAILABLE			INDIAN, TRIBAL AND TRUST ALLOTMENT	PUBLIC 80-100 PERCENT AVAILABLE		NATIONAL FOREST		
			FOR CUTTING	RESERVED			FOR CUTTING	RESERVED	FOR CUTTING		RESERVED
1	WOODLAND:										
5A	DENSE JUNIPER: JUNIPER FORESTS OCCUPYING 10% OR MORE OF THE LAND AREA	1,745		20	60	1,000	145			2,970	
5B	SCATTERED JUNIPER: JUNIPER FORESTS OCCUPYING 5 TO 10% OF THE LAND AREA	27,630	850	10	3,330	17,270	5,445			54,535	
5C	PONDEROSA PINE WOODLANDS: SCATTERED STANDS OF MATURE PONDEROSA PINE ON UNFAVORABLE SITES	4,665	135		290	18,660	1,090	335		25,175	
	PONDEROSA PINE: FORESTS CONTAINING 50% OR MORE OF PONDEROSA PINE										
20	PONDEROSA PINE, LARGE: FORESTS CONTAINING 50 TO 80% OF PONDEROSA PINE, MORE THAN 22" DBH	8,965			25	27,140	200	12,670	1,340	50,340	
20.5	PURE PONDEROSA PINE, LARGE: FORESTS CONTAINING 80% OR MORE OF PONDEROSA PINE, MORE THAN 22" DBH	111,860	195		1,340	70,515	4,255	31,060	4,785	224,010	
20A	PONDEROSA PINE-SUGAR PINE MIXTURE, LARGE: FORESTS CONTAINING 50% OR MORE OF PONDEROSA PINE AND 20% OR MORE OF SUGAR PINE, MORE THAN 22" DBH	180				35				215	
21	PONDEROSA PINE, SMALL: 12 TO 22" DBH	2,375				130		365		2,870	
22	PONDEROSA PINE SEEDLINGS, SAPPLINGS, AND POLES: LESS THAN 12" DBH	2,585			45	535	25	1,450	245	4,885	
	PINE MIXTURE: MIXED FORESTS CONTAINING 20 TO 50% OF PONDEROSA PINE										
27	PINE MIXTURE, LARGE: 12" OR MORE DBH	1,770			75	4,015	95	10,330	1,725	18,010	
28	PINE MIXTURE, SMALL: LESS THAN 12" DBH	20				2,415		1,425	80	3,940	
	DOUGLAS FIR: FORESTS CONTAINING 60% OR MORE OF DOUGLAS FIR										
7	DOUGLAS FIR, SMALL OLD GROWTH: 22 TO 40" DBH	810				1,565	5	2,210	110	4,700	
	FIR-MOUNTAIN HEMLOCK: FORESTS CONTAINING 50% OR MORE OF NOBLE FIR, SILVER FIR, ALPINE FIR, OR MOUNTAIN HEMLOCK, OR OF ANY COMBINATION OF THESE SPECIES										
23	FIR-MOUNTAIN HEMLOCK, LARGE: 12" OR MORE DBH	350				5,815		1,185	4,090	11,440	
24	FIR-MOUNTAIN HEMLOCK, SMALL: LESS THAN 12" DBH					960		35	1,570	2,565	
	UPPER-SLOPE MIXTURE: MIXED FORESTS OF WESTERN LARCH, DOUGLAS FIR, ENGELMANN SPRUCE, SILVER FIR, WHITE FIR, ALPINE FIR, LODGEPOLE PINE, OR WHITE PINE; OCCASIONALLY OTHER SPECIES										
27	UPPER-SLOPE MIXTURE, LARGE: 12" OR MORE DBH	535				2,965	30	4,290	320	8,140	
28	UPPER-SLOPE MIXTURE, SMALL: LESS THAN 12" DBH					6,880		90	20	6,970	
	LODGEPOLE PINE: FORESTS CONTAINING 50% OR MORE OF LODGEPOLE PINE										
25	LODGEPOLE PINE, LARGE: 12" OR MORE DBH	145						285	180	610	
26	LODGEPOLE PINE, MEDIUM: 6 TO 10" DBH	305				8,750		4,790	7,630	21,475	
26A	LODGEPOLE PINE, SMALL: LESS THAN 6" DBH					1,085				1,085	
	HARDWOOD: FORESTS CONTAINING 50% OR MORE OF NORTHERN BLACK COTTONWOOD										
31.5	HARDWOOD, LARGE: 12" OR MORE DBH	60				145				205	
33	SUBALPINE: FORESTS AT UPPER LIMITS OF TREE GROWTH, USUALLY UNMERCHANTABLE	90				5,335		2,805	4,745	12,975	
	NONRESTOCKED CUTOVERS: LOGGED AREAS NOT SATISFACTORILY RESTOCKED AND NOT CARRYING A RESIDUAL STAND OF 1 M OR MORE PER ACRE CUT SINCE BEGINNING OF 1920	1,475					50			1,525	
	DEFORESTED AREAS: NONRESTOCKED AREAS DEFORESTED OTHERWISE THAN BY CUTTING										
37	DEFORESTED BURNS	4,000				4,865	115	1,790	865	11,635	
38	NONCOMMERCIAL ROCKY AREAS					855		275	1,355	2,485	
TOTALS FOR FOREST LAND		169,565	1,180	30	5,165	180,935	11,455	75,390	29,060	472,780	
1 & 2	NONFOREST LANDS: CULTIVATED, GRASS, SAGEBRUSH, BARRENS, CITIES, UNMEASURED										
	WATER SURFACES, ETC.	660,510	ACRES OF NONFOREST LAND UNCLASSIFIED BY OWNERSHIP				1,670	3,600		665,780	
TOTALS FOR COUNTY							77,060	32,660		1,138,560	

1/ THE TOTAL AREA OF THE COUNTY, ACCORDING TO THE BUREAU OF THE CENSUS, IS 1,138,560 ACRES. OF THIS TOTAL, 478,050 ACRES WAS CLASSIFIED AS TO OWNERSHIP BY THE FOREST SURVEY.

FOREST STATISTICS FOR JEFFERSON COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 3. AREA, IN ACRES, OF GENERALIZED FOREST TYPES, BY OWNERSHIP CLASS
DATA CORRECTED TO JANUARY 1, 1935

TYPE DEFINITION	STATE		COUNTY	INDIAN, TRIBAL AND TRUST ALLOTMENT	PUBLIC DO- MAIN, AVAIL- ABLE FOR CUTTING	FEDERAL		TOTAL	
	PRIVATE	AVAILABLE FOR CUTTING				RESERVED FROM CUTTING	NATIONAL FOREST		
							AVAILABLE FOR CUTTING		RESERVED FROM CUTTING
WOODLAND: JUNIPER SURVEY TYPES 5A AND 5B	29,375	850	30	3,390	18,270	5,590		57,505	
HARDWOODS: COTTONWOOD SURVEY TYPE 31.5	60				145			205	
PONDEROSA PINE AND SUGAR PINE 12" OR MORE DBH SURVEY TYPES 5½, 20.5, 20, 20A, 20B, 21, AND 27	129,815	330		1,730	120,495	5,640	54,760	320,620	
PONDEROSA PINE LESS THAN 12" DBH ON CUTOVER AREAS	2,045			45				2,090	
SURVEY TYPES 22 AND 28 ON OLD BURNS	560				2,950	25	2,875	6,735	
TOTAL	2,605			45	2,950	25	2,875	8,825	
CONIFERS 12" OR MORE DBH OTHER THAN PONDEROSA PINE AND LODGEPOLE PINE									
SURVEY TYPES 7, 23, AND 27½	1,695				10,345	35	7,685	24,280	
CONIFERS LESS THAN 12" DBH OTHER THAN PONDEROSA PINE AND LODGEPOLE PINE									
ON CUTOVER AREAS									
ON OLD BURNS					7,840		125	9,555	
SURVEY TYPES 24 AND 28½					7,840		125	9,555	
TOTAL									
LODGEPOLE PINE 12" OR MORE DBH SURVEY TYPE 25	145						285	610	
LODGEPOLE PINE LESS THAN 12" DBH SURVEY TYPES 26 AND 26A	305				9,835		4,790	22,560	
NONCOMMERCIAL AREAS SURVEY TYPES 33 AND 38	90				6,190		3,080	15,460	
NONRESTOCKED CUTOVER AREAS AND DEFORESTED BURNS SURVEY TYPES 35A AND 37	5,475				4,865	165	1,790	13,160	
TOTALS FOR FOREST LAND	169,565	1,180	30	5,165	180,935	11,455	75,390	472,780	
NONFOREST LAND SURVEY TYPES 1 AND 2	660,510 ACRES OF NONFOREST LAND UNCLASSIFIED BY OWNERSHIP						1,670	3,600	665,780
TOTALS FOR COUNTY							77,060	1,138,560	

1/ THE TOTAL AREA OF THE COUNTY, ACCORDING TO THE BUREAU OF THE CENSUS, IS 1,138,560 ACRES. OF THIS TOTAL, 478,050 ACRES WAS CLASSIFIED AS TO OWNERSHIP BY THE FOREST SURVEY.

FOREST STATISTICS FOR JEFFERSON COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 4. AREA OF FOREST LAND, BY SITE QUALITY
DATA CORRECTED TO JANUARY 1, 1935

TYPE	SITE QUALITY CLASS ^{1/}	ACRES	AREA			
			PERCENTAGE OF—			
			CONIFEROUS	FOREST LAND	TOTAL	TOTAL
			CLASSIFIED	AS TO SITE	LAND ^{2/}	AREA OF
			QUALITY			COUNTY
PONDEROSA PINE, PONDEROSA PINE MIXTURE, AND SUGAR PINE MIXTURE	PONDEROSA PINE	II	2,270	0.6	0.5	0.2
		III	46,647	12.4	9.8	4.0
		IV	153,274	40.8	32.5	13.5
		V	114,634	30.4	24.1	10.1
		VI	22,532	6.0	4.8	2.0
			339,357	90.2	71.7	29.8
DOUGLAS FIR, FIR- MOUNTAIN HEMLOCK, AND UPPER-SLOPE MIXTURE	DOUGLAS FIR	III	146			
		IV	12,603	3.4	2.7	1.1
		V	24,334	6.4	5.2	2.2
			37,083	9.8	7.9	3.3
TOTAL			376,440	100.0	79.6	33.1
LODGEPOLE PINE			23,170		4.9	2.0
JUNIPER			57,505		12.2	5.1
NONCOMMERCIAL ROCKY AREAS			2,485		0.5	0.2
SUBALPINE			12,975		2.7	1.1
HARDWOOD			205		0.1	
TOTAL			96,340		20.4	8.4
GRAND TOTAL			472,780		100.0	41.5

1/ THE "SITE QUALITY" OF A FOREST AREA IS ITS RELATIVE PRODUCTIVE CAPACITY, DETERMINED BY CLIMATIC, SOIL, TOPOGRAPHIC, AND OTHER FACTORS. THE INDEX OF SITE QUALITY IS THE AVERAGE HEIGHT OF THE DOMINANT STAND AT THE AGE OF 100 YEARS. SIX SITE QUALITY CLASSES ARE RECOGNIZED FOR PONDEROSA PINE AND FIVE FOR DOUGLAS FIR, CLASS I BEING IN EACH CASE THE HIGHEST. IN THE SURVEY THE PONDEROSA PINE AND DOUGLAS FIR CLASSIFICATIONS, RESPECTIVELY, WERE USED NOT ONLY FOR TYPES OF WHICH THESE SPECIES ARE CHARACTERISTIC COMPONENTS BUT FOR OTHER TYPES FOR WHICH NO SITE QUALITY CLASSIFICATIONS HAVE BEEN DEVELOPED.

2/ THE TOTAL AREA OF THE COUNTY, ACCORDING TO THE BUREAU OF THE CENSUS, IS 1,138,560 ACRES. OF THIS TOTAL, ACCORDING TO FOREST-SURVEY DATA, 472,780 ACRES (41.5 PERCENT) IS FOREST LAND AND 665,780 ACRES (58.5 PERCENT) IS NONFOREST LAND.

FOREST STATISTICS FOR JEFFERSON COUNTY, OREGON

FROM INVENTORY PHASE OF FOREST SURVEY

FIGURE 2. DISTRIBUTION OF SAW-TIMBER VOLUME BY SPECIES, ALL OWNERSHIP CLASSES (FROM TABLE 1)

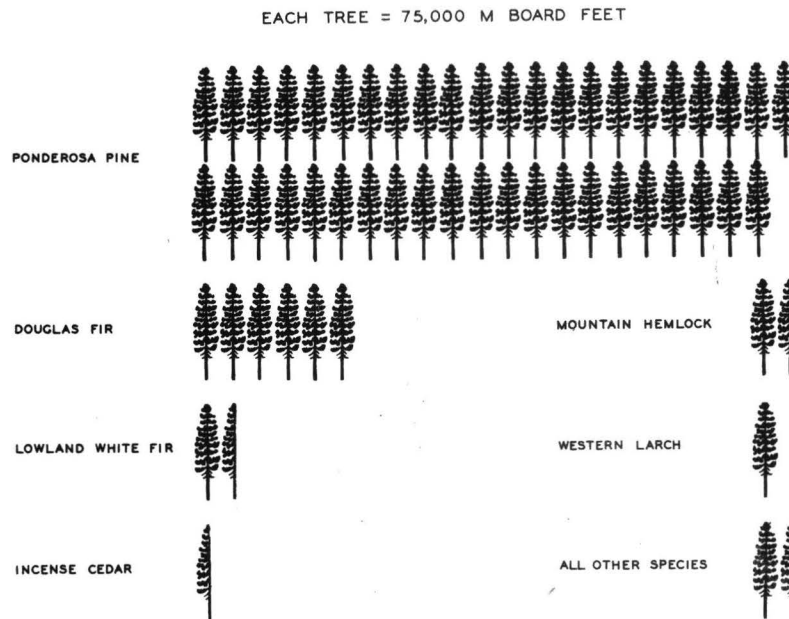


FIGURE 3. OWNERSHIP OF FOREST LAND (FROM TABLE 2)

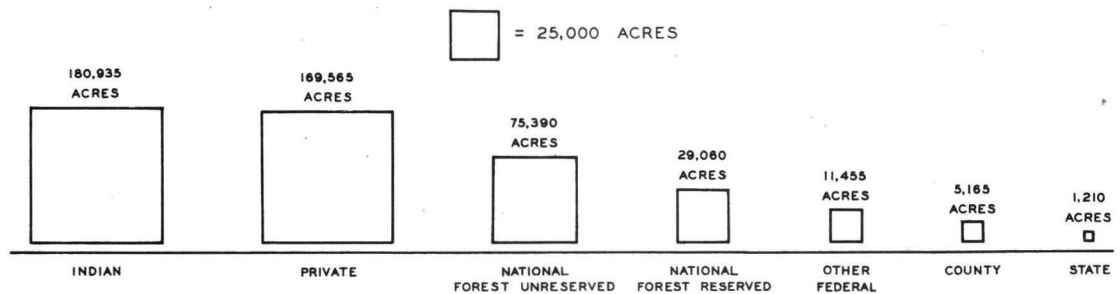


FIGURE 4. DISTRIBUTION OF FOREST LAND BY GENERALIZED TYPES, ALL OWNERSHIP CLASSES (FROM TABLE 3)

